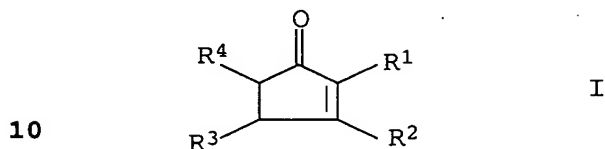
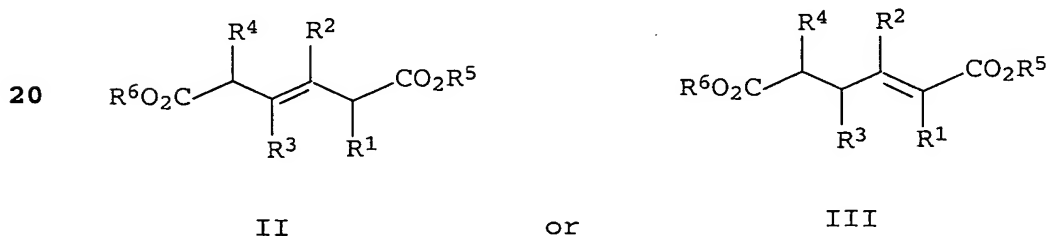


We claim:

1. A process for preparing 2-cyclopentenones of the general  
5 formula:



- 15 where R<sup>1</sup> to R<sup>4</sup> are each hydrogen atoms or are alkyl or alkenyl radicals having from 1 to 12 carbon atoms, cycloalkyl or cycloalkenyl radicals having from 5 to 7 carbon atoms, aralkylene or aryl radicals, by converting hexenedioic acids and/or their esters of the general formulae



- 25 where R<sup>1</sup> to R<sup>4</sup> are each as defined above and R<sup>5</sup> and R<sup>6</sup> are each hydrogen atoms or are alkyl radicals having from 1 to 12 carbon atoms, cycloalkyl radicals having 5 or 6 carbon atoms, aralkyl or aryl radicals, at temperatures of from 150 to  
30 450°C, over solid, oxidic catalysts, wherein the catalysts on an oxidic support material comprise from 0.01 to 5% by weight of at least one alkali metal oxide.

- 35 2. A process as claimed in claim 1, wherein the support material used is a metal oxide of main groups II to V, transition groups I to VIII of the Periodic Table of the Elements, an oxide of the rare earth metals or a mixture thereof.
- 40 3. A process as claimed in claim 1, wherein the support material used is aluminum oxide and/or silicon oxide.
- 45 4. A process as claimed in claim 1, wherein sodium oxide and/or potassium oxide are used.

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5. A process as claimed in claim 1, wherein the reaction is carried out in a fixed bed.
6. A process as claimed in claim 1, wherein the starting materials of the general formulae II and III are prepared by dimerizing acrylic esters.

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